

I claim:

1. A composition comprising an immune effector cell and a cell penetrating peptide, wherein said cell penetrating peptide is associated with an antigen.
2. The composition of claim 1, wherein the antigen is a tumor rejection antigen or tumor associated antigen.
3. The composition of claim 1, wherein the antigen is a molecule comprising multiple T-cell peptides.
4. The composition of claim 3, wherein the multiple T-cell peptides are from either the same tumor antigen or different tumor antigens.
5. The composition of claim 1, wherein the antigen comprises at least one MHC class I-restricted peptide, at least one MHC class II-restricted peptide, or at least one MHC class I-restricted peptide and at least one MHC class II-restricted peptide.
6. The composition of claim 1, wherein the immune effector cell is a mature dendritic cell, a B cell, a macrophage, or a fibroblast.
7. The composition of claim 1, wherein the immune effector cell is a mature dendritic cell or a B cell.
8. The composition of claim 1, wherein the immune effector cell is a mature dendritic cell.
9. The composition of claim 1, wherein the antigen is a tumor antigen.
10. The composition of claim 9, wherein the tumor antigen is a peptide.
11. The composition of claim 9, wherein the tumor antigen is TRP2.
12. The composition of claim 9, wherein the tumor antigen is one from Table 1, Table 2, Table 3, Table 4, or Table 5.
13. The composition of claim 1, wherein the cell penetrating peptide is CPP1, ANTP, Signal-peptide I, Signal-peptide II, PRES, Transportan, Amphiphilic model peptide, HSV VP22, peptide carrier, or CL22.
14. The composition of claim 1, wherein the cell penetrating peptide is CPP1.
15. The composition of claim 1, wherein the association of the cell penetration peptide with the antigen is a covalent bond.
16. The composition of claim 1, wherein the antigen is housed within a vesicle in said immune system cell.
17. The composition of claim 16, wherein the vesicle is an endosome.

18. A composition comprising an immune effector cell and a cell penetrating peptide, wherein said cell penetrating peptide is associated with an antibody.

19. A vaccine comprising:  
an immune effector cell and a cell penetrating peptide, wherein said cell penetrating peptide is associated with an antigen; and  
a pharmaceutically acceptable carrier.

20. The vaccine of claim 19, wherein the immune effector cell is a mature dendritic cell, a B cell, a macrophage, or a fibroblast.

21. The vaccine of claim 19, wherein the immune effector cell is a mature dendritic cell or a B cell.

22. The vaccine of claim 19, wherein the immune effector cell is a mature dendritic cell.

23. A method of enhancing immunity in an animal to a disease, comprising the step of administering to the animal a mature dendritic cell, wherein the cell comprises a cell penetrating peptide associated with an antigen to said disease, wherein following said administration, said animal is protected from said disease.

24. The method of claim 23, wherein said animal comprises both CD4+ and CD8+ T cells.

25. The method of claim 23, wherein said dendritic cell is administered to the animal by injection.

26. The method of claim 25, wherein said injection is intravenously, intraperitoneally, or subcutaneously.

27. The method of claim 23, wherein the animal is a mammal.

28. The method of claim 27, wherein the mammal is a human.

29. A method of immunizing an animal, comprising administering the vaccine of claim 18 at least once to said animal.

30. A method of treating a disease in an animal, comprising the step of administering to the animal:

an immune effector cell comprising a cell-penetrating peptide associated with  
an antigen for said disease; and  
a pharmaceutically acceptable carrier.

31. The method of claim 30, wherein the immune effector cell is a mature dendritic cell, a B cell, a macrophage, or a fibroblast.

32. The method of claim 30, wherein the immune effector cell is a mature dendritic cell or a B cell.

33. The method of claim 30, wherein the immune effector cell is a mature dendritic cell.

34. The method of claim 30, wherein the cell penetrating peptide is CPP1, HIV Tat, VP22, MTS, or fibroblast growth factor.

35. The method of claim 30, wherein the cell-penetrating peptide is CPP1.

36. The method of claim 30, wherein the disease is cancer and wherein the antigen is a tumor antigen.

37. The method of claim 36, wherein the tumor antigen is TRP2.

38. The method of claim 36, wherein the tumor antigen is one from Table 1, Table 2, Table 3, Table 4, or Table 5.

39. The method of claim 30, wherein the animal is further subjected to a cancer treatment, wherein the treatment is surgery, radiation, chemotherapy, or gene therapy.

40. The method of claim 39 wherein the administration of the dendritic cell is prior to the cancer treatment.

41. The method of claim 39, wherein the administration of the dendritic cell is subsequent to the cancer treatment.

42. The method of claim 39, wherein the administration of the dendritic cell is concurrent with the cancer treatment.

43. A method of preparing a composition for a disease, comprising:  
providing an immune effector cell;

providing a cell penetrating peptide associated with an antigen for said  
disease; and

introducing the cell penetrating peptide associated with the antigen to the  
immune effector cell, wherein said antigen enters into the cell.

44. The method of claim 43, wherein the immune effector cell is a mature dendritic cell, B cell, a macrophage, or a fibroblast.

45. The method of claim 43, wherein the immune effector cell is a mature dendritic cell.

46. The method of claim 43, wherein the antigen is a tumor antigen, autoantigen, or viral antigen.

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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